

REMARKS

Claims 1-9 and 28-32 have been allowed, and claim 17 has been objected to as being dependent upon a rejected base claim, and would be allowable if rewritten in independent form to include all of the claims from which it depends. Claims 10-16 and 18-27 stand rejected.

Claims 1-5, and 21 have been objected to because of certain informalities.

The objection to claim 1, line 6, and claim 4, line 6, has been noted. However, it is believed that the Examiner's suggestion of changing "an optical image" to "said optical image" is not appropriate since clause (a) of those claims does not involve capturing the optical image but merely providing a video camera capable of converting a viewed optical image into a stream of analog video signals. The step of capturing the optical image is step (b) and, therefore, the original language "an optical image" is believed to be correct.

The objection to claim 21, line 1, has been noted. The claim has been modified to eliminate use of the term "process".

In view of the foregoing changes, Applicants respectfully requests that the objection to claims 1-5 and 21 should be rescinded.

Applicants' respectfully request reconsideration of the rejection of claims 10-16 and 18-27 under 35 USC 103(a) as being unpatentable over Sass et al. (U.S. Patent No. 5,404,162) in view of Bakhle et al. (U.S. Patent No. 6,061,092). As noted by the Examiner, Sass et al. do not disclose Applicants' concept of generating a sequence of first video images captured at a first exposure level and second video images captured at a second different level, with the second video images being interspersed among said first video images in that sequence. Furthermore, Sass et al. are not concerned with the concept of recording images of a scene, but rather Sass et al. are concerned with imaging current high-speed repetitive events, e.g., the firing of a spark plug or the position of a turning fan blade. Applicants' invention is concerned with monitoring a scene and involves the concept of recording images with different exposure values, the images of different exposure values being obtained by suitably operating a video camera.

The patent to Bakhle et al. does disclose a video camera for capturing a sequence of video images. However, contrary to the Examiner's description of that reference, Bakhle et al. do not capture a sequence of video images comprising first video images captured at a first exposure level and second video images captured at a second different exposure level. Instead, Bakhle et al. are concerned solely with the concept of canceling dark fixed pattern noise (DFPN) that is the result of photo diode leakage current sensed by CMOS sensors. That noise occurs even where there is no light reaching the CMOS sensors.

The object and purpose of the Bakhle et al. invention is to avoid having to capture a "dark image" in close time proximity to the sensing of a scene image, since that involves use of a mechanical shutter to acquire the dark images while also permitting acquisition of scene images. The frequent shutter use increases the power consumption of the camera (see column 1, lines 38-67 and column 2, lines 1-20). A "dark image" is the DFPN that occurs when no light is illuminating the CMOS sensor array.

The invention of Bakhle et al. consists of tethering the camera to a host computer system, and storing on that computer system a dark image cache for use in updating the currently applicable dark image for DFPN cancellation processing. Bakhle et al. provide a camera with the capability of providing for each frame a header data section that includes dark column reference data. Dark column reference data is an addition to the scene image data, and is achieved by having the CMOS sensor image array generate data for two dark columns as well as image data of a scene. The data of those two dark columns for each frame is then compared with the "dark image" data in the cache and the scene image is then altered according to the appropriate dark image selected from the dark image cache. Essentially, the image of a scene is modified to eliminate the effect of the background noise.

In no sense can the method and apparatus of Bakhle et al. be construed as generating a series of frames or images of a scene that vary in exposure values according to some predetermined scheme, as is the basis for Applicants' invention. Bakhle et al. do not provide a sequence of images of a scene with

some images having a first exposure value and other images having a second exposure value. Accordingly, Bakhle et al. do not make up for the deficiencies of Sass et al., and, therefore, modifying the method and apparatus of Sass et al. to incorporate the method and/or apparatus of Bakhle et al. would not result in a method or system as called for by Applicants' claims.

In requesting reconsideration of claims 10-16 and 18-27, it should be noted that Applicants have amended certain of those claims to call for images of a scene, thereby patentably distinguishing Applicants' invention from the prior art represented by Sass et al. and Bakhle et al.

Claim 17 depends from claim 10. Since claim 10 has been amended to distinguish from the prior art, Applicants believe there is no need to rewrite claim 10 in independent form to make it allowable. Therefore, its allowance is believed to be in order.

On the basis of the foregoing amendments and remarks, it is believed that this amendment places the application in condition for allowance. Therefore, prompt and favorable reconsideration is solicited.

Respectfully submitted,



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